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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,980	01/29/2002	Edward T. Knobbe	67771/01-035	7827

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 03/14/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,980

Applicant(s)

KNOBBE ET AL.

Examiner

Michael J Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Barrow et al. (US Pat. No. 5,585,136) and a product description of “Spin-on-Glass” (Semiconductor Online: Product Showcase of “Spin-on-Glass” by Honeywell).

Normally, only one reference is used in making a rejection under 35 U.S.C. 102; however, a 102 rejection over multiple references has been held to be proper when the extra references are cited to show that a characteristic not disclosed in the reference is inherent – see MPEP 2131.01. The product description is used to show that the “spin-on-glass” component used by Barrow et al. is organically modified with methyl groups.

Regarding claims 1-7, Barrow et al. disclose: *(1)* a substrate having a coating thereon (column 4, lines 35-44), the coating comprising: an ormosil composite (column 3, lines 42-49; product description of “Spin-on-Glass”) including a plurality of inorganic particles of a size of at least one (1) micron entrapped therein (column 4, lines 1-9); *(2)* wherein substantially all of said plurality of inorganic particles each being not greater than 75 microns in its maximum dimension (column 4, lines 1-9); *(3)* wherein substantially all of said plurality of inorganic particles each being not greater than 5 microns in its maximum dimension (column 4, lines 1-9); *(4)* wherein the concentration of said plurality of inorganic particles is between 1% and 90% of the total

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weight of said ormosil composite (column 4, lines 1-9); **(5)** wherein the concentration of said plurality of inorganic particles is between 5% and 30% of the total weight of said ormosil composite (column 4, lines 1-9); **(6)** wherein said ormosil composite is of a thickness of between approximately 10 and 26 microns (column 4, lines 35-44); and **(7)** wherein said plurality of inorganic particles are selected from the group consisting of oxides, nitrides, carbides, and carbonitrides (column 4, lines 1-9).

Regarding claims 10 and 11, Barrow et al. disclose **(10)** a process of improving the abrasion and corrosion resistance of a metal prone to abrasion and corrosion (column 4, lines 35-44), comprising: applying to the metal a coating of an ormosil composite (column 3, lines 42-49); entrapping a plurality of inorganic particles of a size of at least one micron in maximum dimension in said ormosil composite (column 4, lines 1-9); and **(11)** further applying said ormosil composite coating in a sol-gel process (Abstract; column 2, line 65 through column 3, line 11).

Regarding the above rejections, the term *ormosil* is defined by the Applicant as “organically modified silicates” (paragraph 7), which are represented by a siloxane polymeric network, wherein organic groups are attached to the silicon backbone (paragraph 9). The spin-on-glass material disclosed by Barrow et al. corresponds to Applicant’s description.

3. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Schmidt et al. (US Pat. No. 5,766,680).

Regarding claims 1-9, Schmidt et al. disclose: **(1)** a substrate having a coating thereon (column 1, lines 7-9; column 4, lines 30-34), the coating comprising: an ormosil composite (column 1, lines 10-40) including a plurality of inorganic particles of a size of at least one (1)

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micron entrapped therein (column 1, lines 35-40; column 3, lines 26-33); **(2)** wherein substantially all of said plurality of inorganic particles each being not greater than 75 microns in its maximum dimension (column 3, lines 26-33); **(3)** wherein substantially all of said plurality of inorganic particles each being not greater than 5 microns in its maximum dimension (column 3, lines 26-33); **(4)** wherein the concentration of said plurality of inorganic particles is between 1% and 90% of the total weight of said ormosil composite (column 3, lines 26-33); **(5)** wherein the concentration of said plurality of inorganic particles is between 5% and 30% of the total weight of said ormosil composite (column 3, lines 26-33); **(6)** wherein said ormosil composite is of a thickness of between approximately 10 and 26 microns (column 4, lines 27-39); **(7)** wherein said plurality of inorganic particles are selected from the group consisting of oxides, nitrides, carbides, and carbonitrides (column 3, lines 34-38); **(8)** wherein said ormosil composite is formed through the hydrolysis and condensation of organically modified silane with an alkoxide precursor (column 1, lines 10-40); and **(9)** wherein said alkoxide precursor is a non-transition metal precursor (column 1, lines 10-40).

Regarding claims 10 and 11, Schmidt et al. disclose **(10)** a process of improving the abrasion and corrosion resistance of a metal prone to abrasion and corrosion (column 1, lines 10-40), comprising: applying to the metal a coating of an ormosil composite (column 1, lines 7-9); entrapping a plurality of inorganic particles of a size of at least one micron in maximum dimension in said ormosil composite (column 1, lines 35-40; column 3, lines 26-33); and **(11)** further applying said ormosil composite coating in a sol-gel process (column 3, lines 10-13).

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Betz et al. (US Pat. No. 6,419,989 and WO 00/16912) teach an organically modified silicate; however, the inorganic particles used are smaller than 1 micron (see column 14, lines 54-57 and column 22, lines 12-14).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Feely whose telephone number is 703-305-0268. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Michael J. Feely
March 6, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700